

UCLA

California Policy Options

Title

Policy as Politics: Class Size Reduction in California Schools

Permalink

<https://escholarship.org/uc/item/8gt1m80m>

Authors

Cetterall, James S
Korostoff, Marylin

Publication Date

1997-01-01

CALIFORNIA EDUCATION POLICY FOR THE 21ST CENTURY BETTING HEAVILY ON SMALL CLASS SIZE

James S. Catterall and Marilyn Korostoff

Introduction

In July of 1996, California enacted a state budget allocating nearly \$1 billion toward the reduction of school class sizes in the early elementary grades. The goal of the policy was enrolling 20 children per classroom, down from an average of 30 students per class across the state and as many as 36 pupils in some schools. This unprecedented policy initiative was received by educators and parents alike as no less than startling. While the notion of reducing class sizes has attracted supporters for decades, the idea is perennially characterized as a wishful dream when it comes to state policy -- a prescription way more expensive than anything recently legislated in the name of educational improvement, and nothing our cash-strapped states and public school systems could possibly afford to consider. To put things in perspective, \$1 billion exceeds the recent general operating budgets in 7 states.¹ But, then, this is California.

While the agreement to allocate nearly \$1 billion to this initiative for the school year may have come as a mid-summer surprise to educators, legislators, and citizens, it is hard to imagine a policy that could have more far reaching effects on the future of California schools and its school children. On the positive side, the

implementation of the class size reduction initiative (CSRI) might produce welcome effects in the form of learning and development for the state's school children. But as we discuss below, meaningful results for children in classrooms will be more dependent on what kinds of instruction goes on in the new smaller classes than on the simple fact of having them.

Regardless of whether things turn out well for young learners, the CSRI will almost certainly serve to constrain major policy choices available to state legislators and school leaders in future years. This key consequence flows directly from the extensive commitments already forged across the system in order to roll-out smaller classes. The CSRI also brings into sharp relief the wounded state of student testing in California. Sacramento, at the insistence of Governor Wilson's blue pencil, recently abandoned its "new and improved" statewide pupil testing program (CLAS) -- a performance-based assessment system that succumbed to controversy surrounding publicized test items and implementation glitches.ⁱⁱ It may be the year 2000 before another statewide student assessment is in place, and the California legislature will find itself hard-pressed to say anything systematic or reliable about whether the CSRI produced results.

Finally, the California class size reduction initiative should be seen as a distinct product of certain key features Californians have crafted into their education policy system in the past two decades, particularly the constitutional restraints on property tax collections brought by Proposition 13 in 1978 and the constitutional guarantees of state funds for schools voted-in a decade later through Proposition 98. A path to CSRI can be traced as an outgrowth of these two initiatives.

Purpose of this chapter

In this chapter, we hold the case of California's class size reduction policy to be a watershed event in the history of California education policy. The CSRI grew out of a series of critical developments impacting state school policy. Its legislation raises increasingly important questions about the linkages between policy legislation in Sacramento and the actual instructional practices of teachers, where real learning results for children are won or lost. Early indications in our own work to track the effects of the CSRI raise some concerns on this count. In addition, the legislation lacked any requirement that the results of class size reduction be documented, a distinct oversight in a program launching a \$1 billion annual effort that is likely to gain momentum and budget share in future years. Because CSRI comes at a time when California's efforts to assess pupil achievement statewide are on an indefinite hiatus, what we will know of that results from the policy is a big question mark.

Finally, once begun, California's class size reduction policy will create a massive constituency of benefiting teachers and parents joined inevitably by legions of other teachers and parents who want smaller classes. CSRI is a new direction for California schools that will prove very difficult to turn back on. And because it will draw ever more heavily on state resources, CSRI will foreclose major alternative education initiatives for the foreseeable future. We turn now to a more elaborated version of this story.

How did the CSRI come about?

California's move to reduce class size appears to be the product of both short and long term pressures on California schools. While books could be written to capture the richness of the tale, a good sketch of the evolutionary process leading to CSRI includes

both proximate precursors and a saga of state and school finance conflict growing out of two initiatives passed by the voters nearly 10 and 20 years ago.

Controversies over reading instruction. In the year preceding the summer of 1996, California became embroiled in concern and controversy over reading instruction. The state's teachers and school systems were correctly perceived to have largely abandoned what is called a phonics approach to reading instruction in favor of a "whole language" approach. In rough terms, phonics refers to training in the sounds of letters and letter combinations and the decoding of words and conceptualizes reading as building-up from the sounds of written symbols. Whole language refers to teaching reading through the ways words are used in real texts -- stories, literature, and documents. The former stresses word decoding skills and drills, the latter emphasizes reading and being read-to so that word and word pattern recognition and words in their natural usage contexts form the basis of reading skills and comprehension. To make a long story short, California education leaders and politicians came to attribute low reading test performance of California youngsters -- if not low academic performance more generally -- to a generation's neglect of reading instruction. Smaller class sizes were commonly seen as a key component of reforms that could lead to more traditional, individualized, and phonics-based ways of teaching reading, and to higher achievement across the entire curriculum.

A surprise budget surplus. A second near term factor in the emergence of the CSRI in the summer of 1996 was the revved-up engine of the California economy. California state institutions reach projections for their budgets about 6 months before the state legislature actually adopts the state budget for the coming fiscal year. Between the time Governor proposed his state budget in January of 1996 and the due date for a final budget on July 1, the state's economy experienced repeated unanticipated increases in activity accompanied by accelerated tax collections -- and

consequently increased projections of what the state could expect to be able to spend in the upcoming 1996-97 school year.

Proposition 98 budget guarantee for schools. The growth of the California state treasury and its budget projections meant that the state could do more on almost all public fronts than officials thought possible earlier in the budget negotiations. In addition, a constitutional guarantee of a minimum share of the state's general fund expenditures for schools enacted by the voters as Proposition 98 in 1988 had the effect of insuring a healthy and wholly unexpected windfall for the state's schools for the coming school year. A main task for the legislature and Governor was just how to spend this extra money -- a total approximating \$1.5 billion beyond June 1996 plans for the next year's school spending.ⁱⁱⁱ

It is worth noting that Proposition 98 is commonly interpreted as a response by the state education community to Proposition 13, the property tax limitation passed in 1978. Proposition 13 served to squeeze all local budgets formerly dependent on property taxes and resulted in Sacramento becoming the arbiter of school spending statewide through the annual allocation of general funds to schools on a per pupil basis. In 1988 Superintendent of Public Instruction Bill Honig orchestrated the campaign for Proposition 98, which guaranteed a minimum of 40 percent of the state's general fund for the state's schools -- a figure that has undergone some adjustment over the years for pupil population growth, inflation, and the health of state revenue collections. If voters could take away property taxes, they could just as well say that they didn't mean to undermine the schools -- a refrain of the Proposition 98 campaign.

How to spend the windfall. Most of state spending for schools comes in the form of unrestricted per pupil grants (known as "revenue limits") and categorical grants for special programs to school districts -- totaling nearly \$5000 per pupil in 1995-96. The \$1.5 billion windfall announced in the final weeks of the budget process meant that, one way or another, state spending for the

state's roughly 5.5 million students could go up by about \$300 per pupil. Just how this money would be spent was determined inevitably in the politicized budget process surrounding the state capital in the weeks leading up to mid-July 1997.

A principal divide along which spending decisions for California schools must fall is the support of general operations through per pupil block grants to schools on the one hand, and the support of a long list of specific and targeted programs through the categorical grants on the other hand. Special education, adult education, and pupil transportation are examples of categorical programs. The state's teachers tend to line up behind general operating grants, since their salaries, benefits, and staffing ratios flow from general support. Special programs have their own constituencies inside and outside the schools.

The budget process up until the last surplus was announced had resulted in an anticipated split between the two kinds of support -- general funds and categorical -- each slated to average 3 percent increases for 1996-97. The last and major windfall added another \$1.5 billion, or another 3 percent, to the school budget, with about two thirds of this sum quickly going to class size reduction.

Teachers were armed with good arguments for supporting general block grants -- teachers in many school systems had gone without pay raises and even endured pay reductions in the early 1990s. But the proposal by Governor Wilson to launch a class size reduction initiative won the day -- a plan for expenditures that would create a popular program in the Governor's name, a plank he undoubtedly exchanged for his support for other issues and budget claims within the education system, and a plan that would keep the lion's share of the windfall from going directly to teacher salary accounts through general assistance to schools, an eventuality the Governor seemed eager to preempt.

On this last point, it is worth noting that Californians and Americans generally take an ambivalent stance when it comes to

paying school teachers. On the one hand, we recognize a fundamental problem in the profession -- teaching does not pay enough as a career job to attract the best and brightest of our college graduates in large numbers. So increasing pay scales for teachers is a long-term goal of those who would make the job more competitive with engineering, law, or medicine and bring a broader mix of talents to the classroom as teachers.

At the same time, we experience enormous resistance to allocating scarce public dollars to teacher salaries. Some feel that teachers work fewer hours and shorter work-years than others and that relative compensation levels for teachers is fair at best, as things presently stand. Some feel that pumping money into teacher salary scales to make the profession more attractive would have an insupportable primary effect of rewarding those already in the job -- an expensive and perhaps unjustifiable proposition.

What did the CSRI legislation contain?

California's class size reduction policy created a simple financial inducement to school districts. The policy offers school systems \$650 per affected student if they reduce class sizes to 20 students in grades 1, 2 and then either grade 3 or kindergarten. For example, a school with 4 classes of 30 pupils could move to 6 classes of 20 pupils and receive a grant of $120 \times \$650.00$ or \$78,000. This grant would contribute to hiring the additional two teachers and any costs of needed classroom space. As a practical matter, a grant of this size might support the costs of employing beginning teachers (a practice widely occurring as shown below), and beyond minimum teacher salary support would do little to meet the costs of providing added classrooms. Schools operating at capacity are thus at a disadvantage under the CSRI. But nonetheless, schools statewide moved fast to take advantage of the

policy -- interest in smaller classes and in state resources run wide and deep.

Will CSRI work?

Now that the CSRI is under way, what can we expect? From a theoretical standpoint, there is only modest evidence that smaller class sizes will produce learning gains for children. A reasonable forecast is that small class sizes will produce effects in relation to how teachers take advantage of their new less-populated instructional settings. A recent review by Glen Robinson synthesizes research conducted between 1950 and 1990 on the effects of class size reduction.^{iv} Because there is little else to go on, this review relies mainly on the well known efforts by Smith and Glass (1978, 1979) to synthesize earlier research and on evaluations of the Tennessee STAR project from the 1980s (Finn & Achilles, 1990).^v Robinson found that results from the various studies were inconsistent; nonetheless the accumulated body of research could modestly support the following conclusions:

- 1) The most positive effects of small classes on pupil learning occur in grades K-3 in reading and mathematics, particularly in classes of 22 or fewer students. However, the first year's positive effects tend to disappear over subsequent years.
- 2) Studies examining student attitudes and behavior found the most favorable effects of smaller classes in the primary grades.
- 3) Smaller classes can positively affect the academic achievement of economically disadvantaged and ethnic minority students at levels exceeding the impact on non-minority and non-disadvantaged students.

- 4) Within the commonplace range of 23 to 30 pupils, class size has little impact on the academic achievement of most pupils in most subjects above the primary grades.
- 5) The positive effects of class size on student achievement decrease as grade levels increase; however, the available studies in specific subject areas in the upper grades are limited in both number and quality.
- 6) Little if any increase in pupil achievement can be expected from reducing class size if teachers continue to use the same instructional methods and procedures in the smaller classes that they used in the larger classes.
- 7) Reductions in class size should be expected to have small positive effects on achievement in comparison to many less costly learning interventions and strategies. For example, money directed to specific reading and mathematics interventions would be expected to reap greater gains in test scores than a class size reduction policy.

If these conclusions are an apt indication of what to expect from a class size reduction initiative, California's CSRI would seem at least as much the product of passionate and hopeful thinking as of science. While this may not be unusual in the annals of policy formation, the \$1 billion annual stake and the potential productivity of competing interventions are cause for reflection. In any event, most researchers would concur with our assessment that what we should expect from systematic class size reduction will depend largely on what schools and teachers do with the opportunity. We turn now to some preliminary indications of what is happening in the California schools that took up the challenge.

How was the CSRI launched?

With little advanced notice and scarcely time to plan, school superintendents throughout California had to decide whether to participate in the CSRI. How could they reasonably decline? It is not every day that Sacramento provides a \$1 billion program to improve learning. With pressures mounting to improve reading and math scores, with the growing lack of confidence in today's schools, and with the promise of unprecedented amounts of money, there seemed to be little choice -- CSRI was an offer that could not be refused.

The prospect did not unfold without apprehension, however. As the weeks ticked by between adoption of the CSRI and the start of school, there were many unanswered questions. Would there be enough qualified teachers? How would classrooms be staffed if there weren't enough instructors to go around? Would districts need to revamp their hiring practices? Would they lower employment standards? How would districts find enough bilingual teachers when the current pool does not even begin to meet the demand across California? (After all, it is the primary grades where the highest and fastest growing numbers of limited English speaking and non-English speaking children are enrolling.) And how would the teacher preparation programs at the major state and private universities respond? Would entire programs be wiped out as districts scramble to hire anyone they can get their hands on?

Districts also had legitimate concerns about the long term financial picture surrounding the CSRI. Would districts receive the necessary funds to sustain their new classrooms in the long run? If the funds should dry up, then what? Five years down the road, might districts be faced with raiding their own budgets to sustain a popular program in the face of a state fiscal downturn?

And then there were concerns about available space. School facilities are already seriously overcrowded in most city school

systems. Would portable classrooms be available, and would there be sufficient funding to cover the costs? Would there be enough room on school campuses for construction or portable classroom sites? Would schools lose playground space? And what about special purpose rooms on campuses, such as special education facilities, libraries, and computer laboratories? Would those classrooms be commandeered as classrooms when large state grants stood in the balance?

The CSRI was direct and immediate -- apply for the money and start making plans now, or this opportunity will pass you by. This was the atmosphere during the summer of '96, a time when many teachers and school administrators were on vacation. Principals were called back to work early, and major decisions were made quickly about how to implement this far reaching policy.

It seems clear why few districts could say no. Who could argue that small classes aren't better for kids? And with the public's perception that reading and math scores are declining, how could any district pass up an opportunity to make a difference with fewer students in its classrooms. Logic dictates that with fewer children, teachers will have more time for more individualized, in-depth instruction. Students will have more opportunities to interact and participate with each other as well as with the teacher. Accountability will be higher since the teacher's presence will be felt to a far greater degree. Children will no longer be able to hide or cower in the back row knowing that the teacher will never get around to calling on them. Potential discipline problems could be squelched before they begin. And perhaps most important, school leaders faced the certain wrath of primary school parents if they failed to respond to the state's invitation.

Preliminary indications of implementation

Despite the dizzying circumstances of the CSRI's initiation, the limited guidance offered in available research, the preponderance of unanswered questions, and the uncertainty felt by most involved, districts and individual schools have attempted to make sense of the situation during these initial few months.

A preliminary investigation in several local Southern California schools and districts who chose to adopt the program reveals that beginning attempts to implement CSRI are best described as chaotic. One of the first tasks was to rearrange class rosters worked out under prior funding assumptions in early summer -- they now had to form 20 student classrooms. Then, the madcap search for teachers began. Many districts were forced to relax certification requirements; some scoured local university training programs for students who were just beginning their student teaching. Deals were cut with teacher education departments to allow teaching in the smaller classrooms to count as student teaching. Colleges also moved to expand current intern programs for emergency credentialed teachers. Further arrangements were made where individuals with baccalaureate degrees who had passed the CBEST (California Basic Education Skills Test) and who were willing to enroll in a teacher education program could begin teaching in reduced-size classrooms. Emergency teaching credentials were issued to meet the unprecedented demand. The Commission on Teacher Credentialing became actively involved in redefining existing requirements and providing guidance on how to implement emergency training programs.

One emergency permit seeker arriving from out-of-state, in a way reenacting the 1849 Gold Rush, remarked after being placed in a second grade classroom, "When I first went to the district office to apply for a job, it was crazy. People were lined up around the block. No one knew what they were doing. I certainly didn't expect to be interviewed that day but I was. I found myself in a

room with two principals. They confessed that this had all happened so fast, that they really didn't know what they were doing. But one of them took me for coffee and showed me around the area. She pointed out possible places for me to live. By the end of the day, I was hired. I was in shock. This was insane!"^{vi}

Not all principals were willing to hire brand new teachers or those who still lacked training. One reportedly reconfigured her entire Title One program (Federal aid for Economically Disadvantaged Students) budget to allow specialists to teach first and second grade youngsters. This meant that Reading Recovery teachers and other resource personnel were assigned to teach twenty students for at least part of the day. This approach will continue at least through June of 1997, at which time the principal intends to have enough portable classrooms to staff at least 6 new teaching stations. Another principal confessed that she was finding it very difficult to supervise the thirty-six teachers on her staff, six of whom are brand new. Teacher evaluation is a concern since she does not have a vice principal and thus feedback and coaching are entirely her responsibility. This is especially worrisome as most brand new teachers need a considerable amount of support and assistance. The principal is exploring alternative strategies to ease some of this load. Still another principal has instituted split-scheduling at her site where students are in small classes some of the day. This has caused a tremendous amount of unrest with the parents in the community. Siblings may not be on the same schedules; dropping off and picking up children has become a logistical nightmare, with no relief in sight.

And as if assembling and serving a new staff are not enough, principals also must cater to their existing teaching staffs. Who wants to switch grades to take advantage of the smaller classrooms? How would these teachers be fairly assigned and who should have priority? Unions and union contracts would come into play.

Staff development issues. One of the few legal requirements attached to the CSRI is a mandate for staff

development programs for all K-3 instructors assigned to smaller classrooms. Staff development topics must include individualized instruction, effective teaching in smaller classes, and a variety of other concepts relevant to working with fewer students. However, implementing this requirement is expected to take place at local expense. For large districts with ongoing training programs, implementation of this requirement has not been particularly problematic. Smaller districts, however, have been severely impacted and are searching for ways to pay for staff development. Some have applied for grants to fund training opportunities. Others have tried to partner with districts mounting programs. Teacher release days for training have been granted in some districts, but substitutes have proven hard to come by in the seller's market for teachers.

But an even larger concern has an impact on this and all state policies that mandate "staff development" or training as part of a programmatic initiative. It is one thing to offer a staff-development program that features certain skills or topics in its curriculum. It is another matter to deliver effective training that actually raises individual skills, information levels, or motivation -- or most importantly, a program which truly changes professional practice where this is appropriate. Time will tell whether staff development opportunities designed to accompany the CSRI produce productive changes in instructional practices. An informed professional projection is that we should not be too optimistic.

Instructional Effects. It is too early to tell if instructional practices have changed to capitalize on small size classrooms. Some preliminary observations of several 20:1 situations during the first few months have shown classrooms that appear to replicate those that once housed 32 students. Word and number charts are plentiful. Student craft projects are displayed all around the rooms. Books are neatly arranged and housed in wooden bookshelves. Student writing samples with colorful pictures are tacked to the walls. Some classrooms have learning centers through which students rotate. Some second grade classrooms make sure to

incorporate sustained silent reading each day. The rooms appear unusually large because there are fewer desks occupying floor space. One teacher remarked that as soon as report cards are passed out, and parent conferences are over, and the dust settles a bit more, she will really start thinking about how to take advantage of this promising situation. It's November, and student crafted brown paper turkeys are everywhere -- in the halls, on the walls, in the school office, adorning holiday banners. It seems that some things just never change.

CSRI and California pupil assessment

A critical unresolved question is how the effects of the CSRI will be evaluated. The legislation creating CSRI contains neither a requirement nor the resources for evaluation. Furthermore, as noted above, California does not have a state-mandated uniform assessment system.

When test scores seem to be the only measure that the public understands or wants when it comes to appraising schools, what kinds of information will be available to anyone concerned with whether the investment in the CSRI is justifiable, or whether future expansion would be wise? As educators begin to grapple with assessing the CSRI and its results in their schools, we anticipate that early student assessment efforts will be sporadic and unsystematic. Case studies will emerge as doctoral students and faculty members peer in. War stories and legends will accumulate. While it would be a mistake to assume that future policy decisions related to the CSRI would hinge primarily on evaluation results, it is disconcerting to project policy debates over CSRI that suffer little systematic data and which are thus free to soar unburdened by facts.

The commitments embodied in CSRI

We are not alone in guessing that the CSRI will be very popular among educators and parents. A class of 20 would be valued in contrast to past public school practices by any parent or teacher, regardless of any demonstrated effect on student learning. It is difficult to imagine that schools which moved to reduce class sizes in grades K through 3 will have the slightest interest in reversing course.

An iron-clad consequence of this first step is additional pressure to expand the program. Many constituents will press to extend the size reduction policy to additional grade levels. Teachers in grades 4 and 5 are already crying foul -- that the primary-grade teachers should have such luxuriant and "productive" working conditions while they continue to toil away with 36 students. Fourth and fifth grade parents wonder if they shouldn't have waited 2 or 3 years to have their children -- bad luck! And just wait until the families of children in today's smaller classes are ready for 4th grade -- that overcrowded room with the disgruntled teacher will become a symbol of unfinished business.

It would seem that even sustaining the CSRI in the present primary grades over the next few years presents a daunting fiscal prospect to the state of California. The costs of maintaining small classes at these grade levels will escalate in the coming years -- as young and uncredentialed teachers gain their credentials and move up the salary scale, or as starting salaries must be raised to bid extra teaching talent out of the labor force. Expansion to additional grades only aggravates these issues and brings further pressures on the state's over-taxed teacher supply and teacher training institutions.

But the CSRI was born in a banner year for California state finance. It grew from a windfall that may not be repeated, and in a state budget that could shrink. Should the California state economy

and tax collections suffer erosion in the coming years, the schools may be left with an immensely popular program and no reasonable ways to fund it. School districts may find themselves digging deeply into their own budgets and other programs to sustain small classes. Alternatively, if the funds for CSRI become short and schools must back-track and enlarge classes, they may be left with unneeded portable classroom lease obligations or even unused recently-constructed facilities with bond indebtedness to pay.

Implications

We introduced the CSRI as a watershed event in the history of California Education policy. While many education reform initiatives have been seen to arrive with great fanfare and to depart with scarcely an obituary, this policy will surely defy this pattern. It's a big money initiative that has schools rearranging facilities and hiring teachers. And the teacher credentialing system of colleges and universities is moving fast to make accommodations. The CSRI has delivered to hundreds of thousands of California families an educational resource they have cried out for in the provision of small classes -- suppressing a leading historical cause of parent defections to private schools. Families, educators, and legislators will push hard for more while the state can afford it, perhaps for several years if the economic forecasts are correct.

But the CSRI is not a faucet that can simply be shut-off when conditions change. There will be tenured teachers on board because of the policy. There will be facilities costs to amortize. Most important, there will be expectations for levels of service by the state's parents that will be difficult to reverse.

There is little to be done in the short run other than execute as effective an implementation of the CSRI as possible. Our analysis suggests that efforts be undertaken to appraise the effects of

the CSRI on student learning, so that discussion of future expansion may be grounded on valid information about what educational effects to anticipate.

Our analysis also suggests that California proceed with great caution toward any expansion of the CSRI, despite its anticipated popularity. We would not expect Californians to raise taxes for this or most any state operation in the foreseeable future. Thus, this program and all programs funded in Sacramento will suffer the whims of the economic climate and annual tax collections for state government. The existing scheme may prove painfully unsustainable if the California economy deteriorates. The maelstrom of backtracking would only be worse if the policy gained a deeper foothold in the schools, a firmer claim on the general fund, and a stronger place among expectations of California parents and citizens for their schools.

ⁱ U.S. Department of Commerce. 1994 Statistical Abstract of the United States. Table 478, page 308.

ⁱⁱ One administrative difficulty was that CLAS tests required labor-intensive scoring -- teams of teachers appraising student writing, for example. First year CLAS administration brought revelations that some school scores were based on results for very small numbers of pupils -- a total of two students in one reported instance.

ⁱⁱⁱ *EDFact Sheet*, October 1996, page 1. Palo Alto, CA: EDSOURCE.

^{iv} Robinson, G.E. (1990). Synthesis of research on class size. *Educational Leadership*, 47(7), 80-90. Glass, G.V., & Smith, M.L. Meta-analysis of research on the relationship of class size and achievement. (No. OB-NIE-G-78-0103). San Francisco: Far West Laboratory for Educational Research and Development, 1978. Glass, G., & Smith, J. (1979). Meta-analysis of research on class size and achievement. *Educational Evaluation and Policy Analysis*, 1(1), 2-16. Finn, J., & Achilles, C.M. (1990) Answers and Questions about Class Size: A statewide Experiment. *American Educational Research Journal*, 27(3), 557-577.

^v Tennessee's Project Star was a controlled experiment in several schools that reduced class sizes from an average of 27 to 22. In their earlier review, Glass and Smith had generally found that no class size reduction effects are discernible until class sizes reach 15. Most of the specific results listed by Robinson came from evaluations of Project Star.

^{vi} Informal conversation with author, November 22, 1996.